

### REMARKS

Claims 1-9 and 17-36 were pending as of the action mailed on June 18, 2007. Claims 1-16 and 31-34 were withdrawn. Claim 35 is being amended. Reexamination and reconsideration of the action are requested in light of the following remarks.

#### **Examiner Interview**

The applicants thank the Examiner for the telephone interview of September 19, 2007, which was attended by Applicant's representatives, Lawrence F. Rozsnyai and Jennifer Zanolco, during which time objections to claims 20 and 24, and rejections of claims 17-30, 35 and 36 were discussed along with U.S. Patent No. 5,312,689 ("Dasher") and a proposed amendment to claim 35.

#### **Specification**

Claims 20 and 24 were objected to as being of improper dependent form for failing to further limit the subject matter. Claim 20 depends from claim 17. Claim 20 adds a limitation to claim 17, specifically "wherein the cap comprises a second flexible multilayer packaging material" (emphasis added). Claim 24 depends from claim 22, which in turn depends from claim 17. Claim 24 adds a limitation that reads, "wherein the cap comprises a second flexible multilayer packaging material" (emphasis added). Therefore, claims 20 and 24 do not "broaden the scope of the claimed invention" as the Examiner argues. For at least these reasons, applicants respectfully request the Examiner to withdraw this objection.

#### **Section 103**

##### **Claims 17-30**

Claims 17-30 were rejected as allegedly unpatentable over U.S. Patent No. 7,074,501 ("Czeremuszkin") in view of Dasher.

The Examiner rejected claim 17, stating that Dasher discloses an active polymer barrier 22 which includes one or more materials with anhydrides, and that "it would have been obvious

to one of ordinary skill in the art to replace the polymer matrix with anhydride . . . because it would have prevented migrating matter . . . .” Final Office Action, p. 5.

1. Rejection of Claims 17-30 under §103(a) is Improper Because Dasher is Not Analogous Prior Art.

Dasher cannot be used as the basis for a rejection under 35 U.S.C. §103(a) because Dasher is not analogous prior art. To rely on a reference under §103, “[t]he examiner must determine what is ‘analogous prior art’ for the purpose of analyzing the obviousness of the subject matter at issue. In order to rely on a reference as the basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” MPEP 2141.01(a) (citations omitted). Thus, the cited reference must pass one of two tests in order to be considered analogous prior art.

A. Dasher is not in the Field of the Applicant’s Endeavor

Dasher is in the field of ophthalmic lenses. In contrast, this application is in the field of packaging materials for electronic devices. Thus, Dasher fails the first test of whether it can be considered analogous prior art for purposes of a rejection under §103.

B. Dasher is not Reasonably Pertinent to the Particular Problem with which the Inventor was Concerned

Under the second test, a reference is “reasonably pertinent” if “logically, it would have commended itself to an inventor’s attention in considering his problem.” *Id.* (citations omitted). The problem in Dasher is that it is inherently difficult to bond to polyolefins. Dasher’s solution to this problem is to introduce anhydride groups into a polyolefin layer to promote adhesion between the polyolefin layer and neighboring layers.

Dasher reads, in pertinent part, “[t]he barrier layer chosen must, of course, be impermeable to the migrating components . . . . and must exhibit good adhesion to the urethane and the epoxy.” Col. 3, lines 18-28. “Polyolefins . . . are polymers with excellent chemical resistance properties. However, it is inherently difficult to bond to polyolefins.” Col. 3, lines 39-42. Thus, Dasher teaches that the problem is that polyolefins are inherently difficult to bond to epoxy or urethane.

Dasher then goes on to provide a solution to this problem. "Providing the polyolefins with acid or anhydride functional groups" solves the adhesion problem. Col. 3, lines 46-51. "The acid or anhydride functionality in the modified polymer improves the adhesion characteristics of the material." *Id.*

In contrast, the applicant's problem was that encapsulating electronic devices in a ceramic barrier layer requires the ceramic barrier layer to have a low incidence of defects. The solution was to find a polymeric substrate with an improved barrier property and form a multilayer packaging material using the polymer substrate with the improved barrier property and a ceramic barrier layer. This polymeric substrate is referred to as an active polymeric barrier layer because it has enhanced barrier ability in comparison to conventional passive polymeric layers. *See, e.g.*, Specification, p. 3, lines 10-12 ("A flexible multilayer packaging material . . . can include at least one active polymeric barrier layer that can bind moisture and oxidizing agents . . ."). In some embodiments, a polymeric barrier layer is made active by adding anhydrides to the polymeric material, where the anhydrides can bind moisture and oxidizing agents. *See, e.g.*, p. 4, lines 18-25 ("these anhydrides are able to bind moisture, e.g. water molecules.").

Thus, applicant's problem was finding a barrier layer that could be used with a ceramic layer to form a packaging material. Applicant's solution was to form an active polymeric barrier layer and use the active polymeric barrier layer with the ceramic layer. In some embodiments, a polymeric barrier layer is made active by adding anhydrides to the polymeric material, where the anhydrides can bind moisture and oxidizing agents.

Conversely, Dasher teaches that polyolefins are difficult to bond to epoxy and urethane. Dasher's solution to this problem is to add anhydride or acid functional groups to the polymer to improve adhesion.

Since Dasher does not address the particular problem with which the inventors of this application were concerned with, Dasher fails the second test of whether it can be considered analogous prior art. Therefore, it cannot be used as a reference for the purposes of rejection under §103.

2. Persons with Ordinary Skill in the Art would not have Combined the Teachings of Dasher and Czeremuskin

Without conceding any of the points above, even if Dasher can be used as a §103 reference, one skilled in the art would not have combined the teachings of Dasher with those of Czeremuskin.

The problem in Czeremuskin is “to develop flexible polymer films which are essentially barriers to oxygen and water vapor . . . .” Col. 2, lines 44-45. Czeremuskin teaches that permeation through plastic films and through organic coatings is controlled by diffusion, while permeation through inorganic coatings is controlled by the presence of discontinuities or defects. Col. 6, lines 47-52. Diffusion coefficients of plastic substrate films such as PET are already quite low, but depositing an inorganic barrier coating directly on such films additionally decreases permeating by many orders of magnitude. Col. 7, lines 14-21. Czeremuskin solves the problem of permeation and diffusion by alternating coatings of inorganic and organic material. Col. 9, lines 4-7.

As noted above, Dasher addresses a different problem. The problem in Dasher is that polyolefins are inherently difficult to bond to epoxy or urethane. Dasher solves this problem by adding acid or anhydride functional groups to the polyolefin to increase adhesion. Because the materials in Czeremuskin do not consist of alternating layers of polyolefins and epoxy or urethane, a person of ordinary skill in the art would not look to Dasher to find a way to improve adhesion of any of Czeremuskin’s layers.

Applicants thus maintain the argument that one skilled in the art would not have combined the teachings of Dasher with those of Czeremuskin in the manner argued by the Examiner.

For at least these reasons, Applicants respectfully request the Examiner to withdraw the rejection to claims 17-30.

**Claim 35**

Claim 35 was rejected as allegedly unpatentable over U.S. Patent No. 6,624,568 (“Silvermail”) in view of U.S. Patent No. 5,587,233 (“König et al.”) or to U.S. Patent No. 6,333,103 (“Ishii et al.”).

Claim 35 has been amended to include the limitation “but exhibiting different microstructures from one another.” Support for this amendment can be found, for example, at page 6, lines 1-4 of the specification.

The cited references do not teach or suggest the teachings of currently amended claim 35 because they disclose layers that are mixtures of the two microstructures, not first and second ceramic barrier layers exhibiting different microstructures from one another. Accordingly, applicants request the Examiner to withdraw this rejection.

### **Claims 17 and 36**

Claims 17 and 36 were rejected as allegedly unpatentable over U.S. Patent No. 7,074,501 (“Czeremuszkín”) in view of U.S. Patent No. 4,576,995 (“Nakabayashi”).

#### 1. Rejection of Claims 17 and 36 is Improper Because Nakabayashi is Not Analogous Prior Art

Nakabayashi is unavailable as a reference for a rejection under §103 because it is not analogous prior art. Please refer to the discussion above regarding Dasher for the requisite two-part test. *See also* MPEP 2141.01(a).

##### A. Nakabayashi is not in the Field of the Applicant’s Endeavor

Nakabayashi fails the first test of whether it can be considered analogous prior art because Nakabayashi is not in the field of the applicant’s endeavor. Nakabayashi is in the field of laminated copolymers and adhesives for bonding ethylene/vinyl alcohol copolymers and polystyrene. *See, e.g.*, Abstract. This is not in the field of the application, that is, packaging materials for electronic devices. Thus, Nakabayashi fails the first test.

##### B. Nakabayashi is Not Reasonably Pertinent to the Particular Problem with which the Inventor was Concerned

Nakabayashi also fails the second test of whether it can be considered analogous prior art. The problem in Nakabayashi is finding an adhesive to ethylene/vinyl alcohol copolymers and polystyrene. “[I]t is of urgent necessity to develop an adhesive for bonding ethylene/vinyl alcohol copolymers and polystyrene together.” Col. 1, lines 42-44. *See also* Abstract. To solve this problem, Nakabayashi adds an  $\alpha,\beta$ -unsaturated carboxylic acid to the copolymer. Col. 2, lines 29-32. Nakabayashi also mentions that instead of a carboxylic acid, an “anhydride thereof”

can be used. *See, e.g.*, col. 2, line 39. Nakabayashi then discusses bonding strength to the particular polymers employed: “The adhesive of the present invention displays excellent bonding strength when applied to bond an ethylene/vinyl alcohol copolymer and polystyrene together . . . .” Col. 3, lines 48-51.

The anhydride disclosed in Nakabayashi does not solve any problem relating to a moisture barrier. Moreover, the application does not employ laminates of ethylene/vinyl alcohol copolymer and polystyrene. Since Nakabayashi does not address the particular problem with which the inventors of this application were concerned with, Nakabayashi cannot be considered analogous prior art. Therefore, Nakabayashi cannot be used as a reference for the purposes of rejection under §103.

2. Persons with Ordinary Skill in the Art would not have Combined the Teachings of Nakabayashi and Czeremuskin

Without conceding any of the points above, even if Nakabayashi can be used as a §103 reference, a person of ordinary skill in the art would not have combined the teachings of Nakabayashi with those of Czeremuskin.

As noted above, the problem in Czeremuskin is “to develop flexible polymer films which are essentially barriers to oxygen and water vapor . . . .” Col. 2, lines 44-45. Czeremuskin solves this problem by providing alternating coatings of inorganic and organic material. Col. 9, lines 4-7. In contrast, the problem in Nakabayashi is finding an adhesive to ethylene/vinyl alcohol copolymer and polystyrene. Col. 1, lines 42-44. *See also* Abstract. Czeremuskin does not have the problem of adhesion between layers. Furthermore, Czeremuskin does not use laminates of ethylene/vinyl alcohol copolymer and polystyrene. Thus, a person of ordinary skill in the art would not have combined the teachings of these references.

Applicants respectfully request the Examiner to withdraw the rejection of claims 17 and 36 for at least these reasons.

### Conclusion

For the foregoing reasons, the applicant submits that all the claims are in condition for allowance.

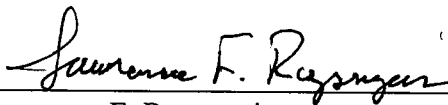
By responding in the foregoing remarks only to particular positions taken by the examiner, the applicant does not acquiesce with other positions that have not been explicitly addressed. In addition, the applicant's arguments for the patentability of a claim should not be understood as implying that no other reasons for the patentability of that claim exist.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 06-1050 and please credit any excess fees to such deposit account.

Respectfully submitted,

Date: \_\_\_\_\_

10/11/07



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